

FAIRCHILD

A Schlumberger Company

**FDH400/FDLL400
FDH444/FDLL444**
**High Voltage General
Purpose Diodes**

T-01-09

- $BV \dots 200\text{ V (MIN) FDH400}$
 $\dots 150\text{ V (MIN) FDH444}$
- $V_F \dots 1.1\text{ V (MAX) @ 300 mA FDH400}$
 $\dots @ 200 mA FDH444$

| PACKAGES | |
|----------|-------|
| FDH400 | DO-35 |
| FDH444 | DO-35 |
| FDLL400 | LL-34 |
| FDLL444 | LL-34 |

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

| | |
|------------------------------------|-----------------|
| Storage Temperature Range | -65°C to +200°C |
| Max Junction Operating Temperature | +175°C |
| Lead Temperature | +260°C |

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1400 family.

3

Power Dissipation (Note 2)

| | |
|---|------------|
| Maximum Total Dissipation at 25°C Ambient | 500 mW |
| Linear Derating Factor (from 25°C) | 3.33 mW/°C |

Maximum Voltage and Currents

| | | FDH400 | FDH444 |
|----------------|--------------------------------|--------|--------|
| WIV | Working Inverse Voltage | 175 V | 125 V |
| I_O | Average Rectified Current | 200 mA | 200 mA |
| I_F | Forward Current Steady State | 500 mA | 500 mA |
| I_F | Recurrent Peak Forward Current | 600 mA | 600 mA |
| $I_{F(surge)}$ | Peak Forward Surge Current | | |
| | Pulse width = 1.0 s | 1.0 A | 1.0 A |
| | Pulse width = 1.0 μ s | 4.0 A | 4.0 A |

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

| SYMBOL | CHARACTERISTIC | FDH400 | | FDH444 | | UNITS | TEST CONDITIONS |
|----------|-----------------------|--------|------------|--------|------------|---------------------|--|
| | | MIN | MAX | MIN | MAX | | |
| VF | Forward Voltage | | 1.1 1.0 | | 1.2 1.1 | V | $I_F = 300\text{ mA}$ $I_F = 200\text{ mA}$ |
| BV | Breakdown Voltage | 200 | | 150 | | V | $I_R = 100\text{ }\mu\text{A}$ |
| I_R | Reverse Current | | 100 | | 50 | nA | $V_R = 150\text{ V}$ |
| | | | 100 | | 100 | nA μA | $V_R = 100\text{ V}$, $T_A = 150^\circ\text{C}$ $V_R = 150\text{ V}$, $T_A = 150^\circ\text{C}$ |
| C | Capacitance | | 2.0 | | 2.5 | pF | $V_R = 0$, $f = 1.0\text{ MHz}$ |
| t_{rr} | Reverse Recovery Time | | 50 | | 60 | ns | $I_F = 30\text{ mA}$, $I_F = 30\text{ mA}$ $R_L = 100\Omega$, $I_{Ft} = 3.0\text{ mA}$ |

NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For product family characteristic curves, refer to Chapter 4, D1.